

## Discovering Voltaire in Transformed Textual Space

Inger Bierschenk

*Abstract* The assumption in this article is that consciousness can be transferred and transformed over times, over texts, and over cultures, provided that a high-quality medium can perform satisfactorily in order to reflect this consciousness. The assumption implies that consciousness is embedded in a style of writing. When sensing a text from earlier times, a reader must be able to pick up the structural relations of this text and mediate them in its own style of writing. In this study, the medium is a young Swedish reader of today, who is sensitive to the essence of literary works, and who can mediate this essence in writing. The task was to give a short explanation of *Candide* by Voltaire. The conceptual structure, which was analysed with PTA/Vertex, shows that the reader's concepts related to this narrative structurally coincide with the concepts of a poem by Voltaire, reported in a previous study. Irrespective of the genre and the length of the texts, it was evidenced that the style (consciousness) of Voltaire was transformed not only vertically but also laterally via a present-day reader's mediation.

### *Consciousness and Style*

Following a humanistic tradition, consciousness implies a subjective state that is formed through interaction between individual and environment, according to Jaynes' (1976/1982) observations. He proposes that the primary prerequisite for developing a conscious mind is the I-me- or I-you relation, that is, projection or reference. In principle, this means the ability of the person to form space (I. Bierschenk, 1989, Figure 6, p.12). Jaynes' conception of the evolutionary development of consciousness is not very unlike Gibson's (1979) foundation for ecological psychology, more precisely expressed in the concept self-sensitivity (Gibson, 1982), which specifically involves vision. Thus, the individual develops the ability to transform visual impressions into something mental. This capability, which is specific to the individual, is the basis for the formation of structure and the establishment of invariance. The ability to form mental structures is bound in evolution and grows with the development of syntax. Consequently, consciousness can only be carried over through language because of its metaphorical function (B. Bierschenk, 1991; I. Bierschenk, 1989, 2011).

Basic for incorporating meaningful or qualitative information by means of language is a mechanism that is operating in such a way that some kind of synthesis or essence can be manifested (I. Bierschenk, 1999/2003, 2011). Therefore, developing consciousness is a matter of lifelong observations about one's society by means of participating in events in real time or sensing them by narration (B. Bierschenk, 2013). Obviously there are people who develop a high degree of sensitivity to societal information that makes them able to produce adequate judgment and prospection, while some people do it to a lesser degree (B. Bierschenk, 2005; I. Bierschenk, 2005, 2012). Consequently, consciousness is unique. However, there must be some properties that individuals have in common, which can be observable and understood publicly (B. Bierschenk, 2013, p. 4).

Public understanding is especially important for interpreting people's judgments and actions in historical times as seen in written matter. The linguistic surface of texts, in particular literary works, reflects the cultural context of the author and therefore it cannot be understood without a deeper knowledge by later-day readers. Structure on the other hand,

which is invisible on the surface, can be transferred over time and also be independent of the individual who produced it, because structure reflects mentality. That which is materialized is invariance. According to Gibson, invariance is sustainable over transformation and change. Moreover, external textual features may be changed by conscious manipulation, while internal qualities are difficult to become aware of and even harder to change. Numerous efforts have been made to find those stylistic features that may be individually bound in order to reveal for example an anonymous author. This kind of stylistic analysis operates with organizational aspects of language and texts and thus it does not differ from content analysis (B. Bierschenk, & I. Bierschenk, 1976; I. Bierschenk, & B. Bierschenk, 2011, p. 1). Just as content can have as many definitions as the number of users, style is an ambiguous term. Already in the sixties, Gray (1969) claimed that style analysis is an impossible undertaking. Against the background outlined, the continued discussion will regard *style* as a matter of consciousness, whose internal dynamics is reflected in a writer's language space formation.

### ***Voltaire - Himself***

A historical person who was recognized thanks to his style was Voltaire. Had he lived today, he would have had one of West's most widely read blogs. Probably the Twitter format had suited his quick mind and art of formulation excellently. Voltaire was a scholar of classical education of Jesuits in the Lycée Louis-le-Grand. He was extremely productive in different genres within different areas and was also involved in various societal issues. He wrote with a strong polemic and malicious touch when he had to (and that was frequently), and satirically witty. His articles were prohibited during certain periods, so he published often anonymously, sometimes under other names. He did not really want to hide, but wanted to continue his battles openly with publishers, agencies and the Catholic Church (W. Durant & A. Durant, 1965, p. 378). This implied that he had to escape the country occasionally. Nevertheless, he kept his correspondence with the entire Europe. When at last he retired to the estate Ferney, he received notables in a steady stream, because no decision of weight could pass without having first passed the 'patriarch of Ferney'. Ferney functioned like today's Facebook; everyone wanted to be invited. 'L'augustin de l'Europe', he reportedly called himself.

Text can be said to be a portion of life (I. Bierschenk, 1992 b). By studying one of Voltaire's texts we can expect that something about his life at the time when he wrote the text will appear. The French classical taste favoured the literary genres of poetry and drama, written in alexandrines, as Voltaire with his background fully mastered and was eager to preserve. One of the most famous of his poems deals with the earthquake in Lisbon in 1755, which Voltaire interpreted and explained the following year by the title *Poème sur le désastre de Lisbonne, ou examen de cet axiome: Tout est bien*. Voltaire fought against the Catholic Church and its dogma, which included denying some sort of afterlife, meaning that we should not expect either punishment or reward. When the Lisbon disaster had just occurred, he wrote the famous poem, whose last two lines summed up his attitude:

Que faut-il, ô mortels? Mortels, il faut souffrir,  
Se soumettre en silence, adorer, et mourir;

Voltaire's friends and critics, however, felt that the last line was not sufficiently confident. Before he could publish the poem he therefore removed 'en silence' and inserted 'espérer' (hope) between 'adorer' and 'et mourir'. But that was not enough, so he finally added twenty-nine more lines, where he according to the general opinion recognizes God's righteousness (W. Durant & A. Durant, 1965, p. 382). It was a reluctant apology, of course.

B. Bierschenk (2013) has analysed the consciousness that is embedded in the two lines of Voltaire's poem. The analysis has been done on the French original (above). The method

used is Perspective Text Analysis (PTA/Vertex). In two important respects, this analysis is remarkable:

- (1) The text is very short. However, length is of no importance for a PTA/Vertex analysis.  
In a sentence there is always an essence embedded, provided that the sentence has been formulated with the intention to say something important.
- (2) The text is a rhymed poem, in which sentences are subjected to the form. PTA/Vertex handles such an analysis, because the structure is not visibly reflected on the surface.

PTA/Vertex is rooted in ecological theory (B. Bierschenk, 1993/2013). A basic assumption is that text production is a matter of movement (I. Bierschenk, 1992 a). Kugler and Turvey (1978) build in substantial part on Gibson's thoughts in expressing that movement patterns, such as a style of walking, involves a set of forces cooperating towards symmetry, their biophysical term for invariance. The rhythm of the movements is likewise individually specific.

The operating system treats the text as a rhythmic, asymmetrically acting pendulum, which rotates and simultaneously moves forward in a thermodynamic process. It is controlled by the [AaO] mechanism, where (A) is the Agent component of the text, representing the intention and (O) is the objective component, representing orientation. These move irreversibly and at different speeds but cooperate during the process. The coordinates that define a perspective are measured as a three-dimensional formation.

The system produces two types of spatial formations, one that displays the 'developed' surface of the text (texture) and one that displays the 'convoluted' surface (structure). Both are presented graphically in so-called energy landscapes. The developed landscape says something about how fast, slow and rhythmic the text is flowing and the convoluted landscape says something about how the information is concentrated, i.e., the essence of text (synthesis, invariance), whose constituent groups of strings are given a generic name, for practical reasons. The agent and the objective actually produce an indivisible unity, but when they both have operated, it is possible to separate them, according to the so-called space-tearing procedure (Greene, 1999), which has become a principle for reporting the results. The method is not described further, as several writings are readily available (e.g. I. Bierschenk & B. Bierschenk, 2011, 2013; B. Bierschenk, 2011; I. Bierschenk, 2011).

The essence of the two lines in Voltaire's poem is described generically by the terms *Strenuous Effort* in the Intention and *Infernal Wandering* in the Orientation (B. Bierschenk, 2013, p. 10). We can follow the path through a number of terms, all of which have to do with life itself (*Existence*), its aspirations and battles (*Struggling*, *Tacit Offer*), suffering and extinction (*Suffering*, *Extinction*). The terms bind each other where they occur at different levels in the structure, but only two of them are unique to each sphere: In the Intention, *Struggling* is unique and in the Orientation, *Tacit Offer* is unique. This relationship indicates that Voltaire expresses a kind of subservience through the Objective in the text while the Agent expresses a willingness to fight for the essence of life.

The flow dynamics shows similar waving textures (B. Bierschenk, 2013, p. 8). However, the Agent is restrained while the Objective is more swinging. One observation is that the flow of the Agent points at a greater 'effort' than what the objective does; where *Struggling* is unique, *Strenuous Effort* has a high peak in the landscape, while it is below the 0-line in the Objective, where *Tacit Offer* is unique. Each A-O pair follows its own rhythm, but it forms symmetries on a higher plane, so-called super-symmetries (B. Bierschenk, 2013, p. 9). Voltaire's textual flow seems to qualify the structure of the energy flow, which confirms that style is a structural concept.

### Sensing the Essence of *Candide*

Buffon's opinion in his inaugural address on style of the Académie Française in 1753, *Le style est l'homme même*, has proved to be justified. The question is whether the notion of *l'homme même* persists when we let a person belonging to a modern audience study another text of Voltaire and convey its sense of the essence in writing. The assumption is:

An essence (structure) remains over time, over text and over culture and can be mediated through another person's written synthesis, i.e. by transformation.

During the latter part of his life Voltaire devoted himself to the novel, which rather should be called prose story (Conte). The genre suited him, because he was accustomed to replace reasoning in serious works with anecdotes (Grimal, p. xxviii). The most famous of his stories is *Candide* (1759). Even this work is a deal with the *‘Tout est bien’* philosophy, in satirical form. Therefore, it has the subtitle ... *ou l'optimisme*. One must assume that it is its narrative form that is the reason that it has survived.

In light of what was said in the introduction, the narrative is suitable as test materials. *Candide* is considered a work where the author more than anywhere else presents himself, with whatever it means. It is written in a seemingly uncomplicated prose, playful and ironic, humorous, with daring remarks here and there, some coarse obscenities, sometimes a violent kick and constantly full of disrespect.

The question that this study will try to answer is whether the synthesis of Voltaire's ethos that *Candide* is assumed to represent can be perceived by a contemporary reader, so that Voltaire himself emerges. For sure, the story consists of a variety of episodes, geographical locations and life stories as well as a variety of truths, illusions and lessons, things that he had observed and experienced throughout his life. All these details are unconsciously linked into a synthesis by the one who reads the text. The result is not exactly the same regardless of reader, but you should be able to assume that there is enough information to synthesize so that an invariant structure is what remains and understood publicly. There must also be a certain degree of sensitivity in the reader to pick up a certain structure and a way to communicate it in writing so that the perceived text passes through the writing medium well enough. As noted, structure is not the same as content and the intermediary needs not be aware of its ability.

#### ***Reader's Sensitivity: A Pilot Study***

In a longitudinal study, carried out in a Swedish high school (upper secondary level) on how individuals develop skills through literary materials, the particular stage had been reached (the third of five) where the understanding of an idea could be tested (B. Bierschenk & I. Bierschenk, 2003/2013 b). The idea would be represented by *Candide* (an edition for schools, Voltaire, 1759/1986). The test question was:

##### *Question:*

As you know, Voltaire has been a learned writer. (a) What kind of learning do you think the novel is communicating? (b) Develop your answer and give an explanation. (c) Point out some places in the book (Chapter or episode) that can serve as an underpinning of your statement. (From original Swedish)

Two students were selected in the start (B. Bierschenk & I. Bierschenk, 2003/2013 a) for a three-year follow-up. One of them (A) had shown an analytical-descriptive approach to the perception and representation of the essence of read texts and the other (B) a synthetic-reflective approach. The latter, who was 17 to 18 years of age at the time and had proved

particularly sensitive to the inherent structure of texts studied so far, gave the following response:

*Answer (original Swedish):*

Att man ska odla den gräsplätt man står på, och skapa sin egen lycka istället för att jaga efter något som borde ge en det. Människor har en tendens, som beskrivs i *Candide*, att tro att gräset är grönare på den andra sidan. Det märks väldigt tydligt när *Candide* och *Cacambo* befinner sig i Eldorado, och trots att det verkligen är paradiset på jorden åker de vidare för något som kanske är ännu bättre. # När sällskapet väl stannar upp i sin lilla gård, så går livet lättare. Lyckan är vad man gör den till. (# = stycke)

*Literal English:*

That one shall cultivate the spot of green grass one stands on, and create one's own happiness instead of running after something, which should give it to you. People have a tendency, which is described in *Candide*, to believe that the grass is greener at the other side. This can be observed very clearly when *Candide* and *Cacambo* have reached Eldorado, and despite the fact that it really is Paradise on earth they leave for something, which perhaps is much better. # When the companions finally come to a hold in their little garden, life becomes easier. Happiness is what you make of it. (# = paragraph)

The main condition for the longitudinal study is an evolutionary scale developed to study the development and growth through the literature. The scale step that *Candide* represents was defined by the concept of *Mastery*. The study reported in 2003 shows that this concept along with the concepts of intellectual development and reasoning emerges in the Orientation dimension (e.g. *Intellectual Enlightenment, Clarification of Meaning*). The Intention dimension specifies the theme (*Improvement of Discrimination, Emphasis on Disparity*) and stresses the importance of looking ahead in life (*Prospecting*), which lies deep in the structure.

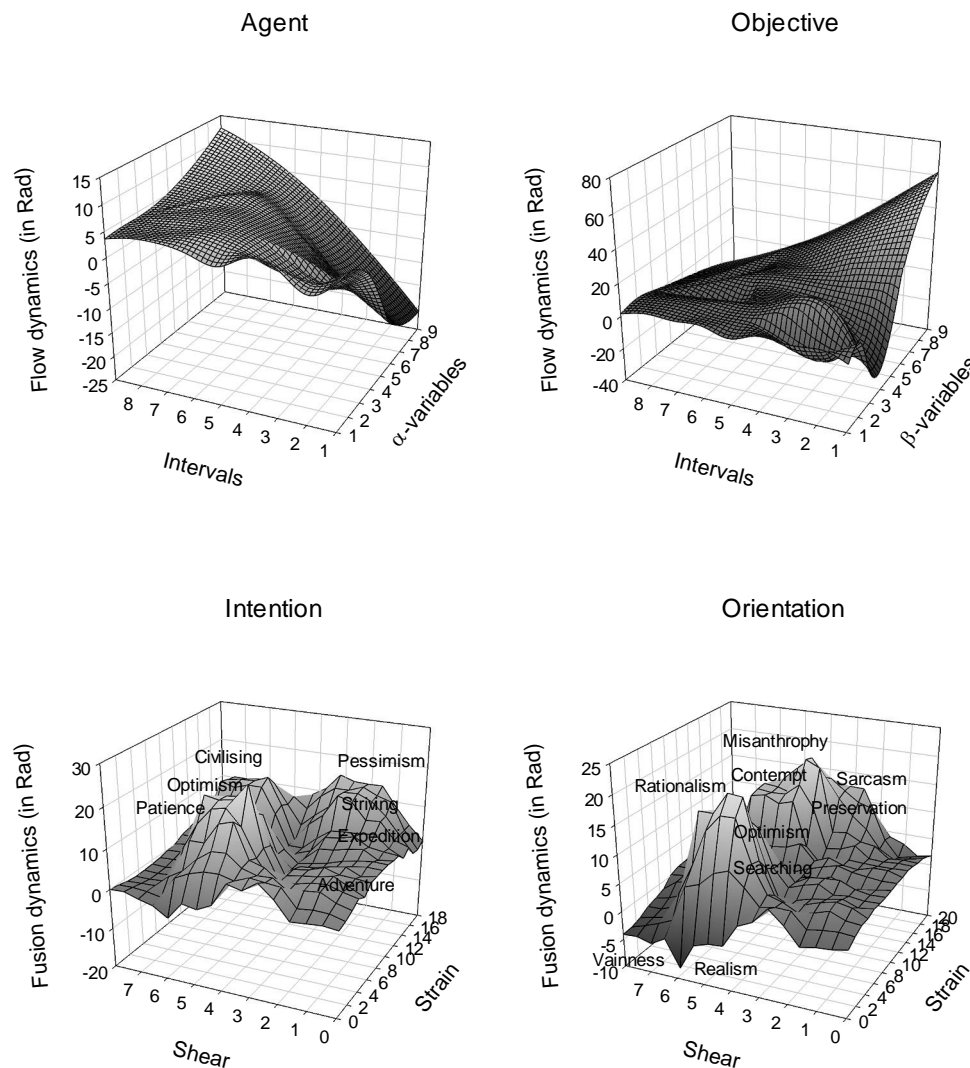
The student had clearly incorporated the mental landscape of Enlightenment in its understanding. This understanding has been detected in that it is embedded in the way of presenting the text. The Orientation emphasizes knowledge aspects, reminiscent of the encyclopaedic thinking, while the Intention focuses on the observation of differences, which are reminiscent of the empirical aspects of the Enlightenment. Further explanations of the termini are outlined and discussed in the report (B. Bierschenk & I. Bierschenk, 2003/2013 b, pp. 22-23).

### ***Candide Transformed: The Main Study***

Since the above-reported study was carried out, the PTA/Vertex has undergone a revision of some key points (I. Bierschenk & B. Bierschenk, 2004, 2011; B. Bierschenk, 2011; I. Bierschenk, 2011). The revision applies primarily to the precision of the string theoretical treatment of the language interfaces that are related to Greene's (1999) theory of super strings.

The student selected (B) has successfully contributed with text materials in a study of a similar nature (I. Bierschenk, 2013). At this occasion, the analysis was about the essence of a contemporary writer's allegorical production of circumstances described in historical real-time. It could be demonstrated that the essence of the historic environment was preserved across the author's fiction and out of the student's text. A double transformation had occurred. What is to be studied now is the extent to which the textual essence of a writer of historical time is maintained when it shall flow laterally, i.e., through another of his texts before reaching out through the medium.

Figure 1 presents the revised analysis. A brief description of how the method works and how the results were obtained was given above (p. 3). The upper half of the figure shows the textual flow dynamics, the lower half shows the information structure, obtained through fusion dynamics. The graphs have been produced by SigmaPlot (2008, version 12.5).



**Figure 1** *Unfolded and folded landscapes of student's transformation of Candide*

### General Observations

In the graphs of the flow, the different scales mean that the Agent component is smaller than the Objective, a natural relationship. However, when the strings of rotation are calculated and "straightened out" it is shown that the text is flowing in a similar uniform rhythm within each component. The flow exhibits a very strong complementarity in the sense that where the Orientation is rotating upwards, the Intention is rotating downwards and vice versa. The two formations could be added at each other and form a whole. Thus, the evolving complementarity is an example of super-symmetry.

The graphs of the information structure are exhibiting a similar relationship. But instead, it is the mountain formations of the landscapes that form a complementary symmetry. The Agent gets a two-part form with a valley in the middle, as is viewed from the front in the perspective. The Objective takes a similar shape but here we see the landscape somewhat twisted, so that the valley erodes obliquely inward as viewed from the right.

The terms evolved in the pilot study are characterized by a distinct complexity in that they could not easily be summarized in a single word, but had to be formulated as an angled relationship (delimited with preposition). This suggests a somewhat fuzzy relationship between the strings when the groupings are to be named (see the presentation of the principle of naming in I. Bierschenk, & B. Bierschenk, 2011, p. 28; B. Bierschenk, 1993/2013, p. 23). After the re-analysis, we can see that a precision has taken place.

### *Orientation*

Nine terms describe the structure of the Orientation landscape. The heavy background specified by *Contempt*, further enhanced with *Misanthropy*, reflecting a strongly pessimistic attitude towards the world and the future opportunities of mankind. One should not think that freedom of morals, the luxury and refinement, as advocated in the fine salons, enriches and improves a society (the theme in *Le Mondain* from 1736). On the contrary, the pursuit of the sort of wellbeing demoralizes citizens to become cynical and take serious things lightly. Both terms are consequently charged with *Sarcasm*, which further emphasizes the decadence in a turn-away attitude towards the world. Perhaps the landscape is expressing an awareness of insufficiency when it comes to rule over one's own life. Meanwhile, the better world is not reachable for anyone, only the virtuous can hope.

At the opposite side of the valley a peak is ascending, which is determined by *Rationalism* and supported by *Optimism*. The terms state that this is the philosophical directions of Enlightenment period that appear. Leibniz's main idea (in *Essais de Théodicée*, 1710, developed by Pope in *Essay on Man*, 1733) was the belief that the world we live in is the best, because God created it and he is all-good. It shows that Christian faith can be defended with equal parts of logic, faith and common sense. So, after some experience and *Searching*, the optimism can have a rational interpretation, although that which is experienced contradicts the all-good authority. By not rejecting either side man maintains his illusions.

In the depth of the same rock formation distrust is still resting. The term *Vainness* can be said to represent the futility of the search for happiness in the philosophical domains. Vanity is enhanced by the deeper *Realism*, which reflects that reality eventually takes its toll. When it meets the sarcastic feature of the expressed disdain for the world, the landscape is balanced towards *Preservation*. This term indicates a desire to preserve the values that a pluralist society provides, after all. Human life has its limitations, thus is made up of both good and evil, pleasure and pain. Our existence is not at all as unhappy as some would have us believe, Voltaire writes à propos of happiness on earth in *Sur Les Pensées de Pascal* (Lagarde & Michard, 1961, p.127).

### *Intention*

Now let us turn to the Intention landscape, described by seven terms, not anyone under the 0-line. The flat hills that precede the right crest formation are determined by the terms *Adventure* and *Expedition*. They relate to the new cosmopolitan lifestyle of Enlightenment. The first indicates a carefree wandering while the latter says more about the direction, possibly some kind of development. The question is what travel in foreign countries and ways of thinking will lead to.

We climb up a bit along the mountain side and we meet *Striving*. It indicates an ambition, an effort to explore life in as many parts as possible. It is heavy and will encounter setbacks, and the result, which is expressed by the term *Pessimism*, indicates the futility of all efforts. To Voltaire, the stay in England was decisive, when he got to know a tolerant and liberal society (portrayed in *Lettres Anglaises* of 1734) different from what he thought about the French. His antagonist Pascal represented a kind of *Pessimism* that detested the secular

life, which according to Voltaire's view, leads to fanaticism. It was something he struggled against.

The left ridge describes the landscape in more positive terms. *Patience* is an important asset in life. Therein lies a way to stoically tolerate a pessimistic view of life. The evil in the world is difficult to mentally overcome without a high degree of *Optimism*. This relative optimism is the attitude to life, which, though not philosophical in the scientific sense, helps *Civilising*, i.e., a humanization of society. The idea is that you create yourself a life. In one of his first stories (*Babouc*), Voltaire confided his then attitude to life: "Si tout n'est pas bien, tout est passable (If all isn't well, all is tolerable)" (Lagarde & Michard, 1961, p. 160).

### Discussion of Voltaire over Texts

We have noted above that the flow dynamics differ between Voltaire's poem, which is asymmetrical, and the transformed *Candide* text, which is symmetrical. In its structure the poem shows a high degree of symmetry in that the terms are almost identical, while the form of the landscapes is asymmetrical (B. Bierschenk, 2013, p.10), but forms an easily perceptible structural complementarity. The structure of the student's landscapes relate symmetrically in shape, as is evidenced by the fusion values of the peaks being about the same in both graphs. But you need to look more closely at the terms to see which relationships are reflected.

The landscapes in the transformed text both show a negatively and a positively charged attention. The rear formation (*Contempt, Misanthropy, Sarcasm*) in the Orientation describes the attitude and exterior style while the front (*Rationalism, Optimism, Searching*) describes the interior style, level of ideas. The intention reflects on one hand the strenuous life and the outer and inner struggles that must be fought (*Expedition, Striving, Pessimism*), on the other hand, the tolerable solution (*Patience, Optimism, Civilization*), without the scientific disputes. We can even see the twin formations as mirroring each other. This means that the structure reflects the complementary relationship that exists on the texture plane.

Now, does the student's text reflect the essence of the poem? The highest point in the Orientation is *Misanthropy* and in the Intention it is *Optimism*, i.e., here we find the textual focus, and this is not so surprising considering the subtitle of the book. But none of them are the most concentrated points. In this analysis, the essence is synonymous with the geometric, which is expressed in the two terms *Preservation* in the Orientation and *Pessimism* in the Intention. Preservation means protecting or conserving human existence. But as providence seems to be uninterested in what happens to us, we create our own paradise here on earth. At the time of the Lisbon disaster and the introduction of *Candide*, Voltaire was undeniably a pessimist, but he was full of what might be called a "pessimisme viril", i.e. the idea that man is created for action (Lagarde & Michard, 1961, p. 167).

To get an overview of the concepts that specify the essential structure in the two texts the main concept pairs are placed side by side in Box 1.

#### Box 1

*Structural comparison between Lisbon Poem and Candide Transformed*

	<i>Intention</i>	<i>Orientation</i>
<i>Poem</i>	Strenuous Effort	Infernal Wandering
<i>Candide</i>	Pessimism	Preservation

*Strenuous Effort* means "a sensitive indication of humanness and an articulation of a need for great effort, requiring energy and hard work when the task consists in reforming both Church



and *Système* (B. Bierschenk, 2013, p. 13). The meaning is the same in *Pessimism*, which is connected to *Striving*. Human action tendency, and especially Voltaire's own, was strong when it came to fight against all forms of superstition. Here we get a deepened explanation of *optimisme viril*.

*Infernal Wandering* is a concept that evokes strong emotions. The term defines one's ability to act and to perform effectively as well as to exercise control over one's human dignity. / It is a demonstration of the implicit link between destruction and humiliation (B. Bierschenk, 2013, p. 13). Inherent in the concept of *Preservation* is a humanistic value that is associated with realism, i.e. with the values associated with human beings and their place on earth.

The structural similarity is striking. Yet a slight difference can be noticed, which you might call a difference in degree or level. The invariant structure has depicted itself through the student's text in a very satisfying way, but expresses a certain vagueness in relation to the world in which Voltaire was active. The same observation could be made in the study that concerned the dual transformation, mentioned earlier, in the sense that the original text, written by Machiavelli, is expressing action orientation, while the student's concepts express more of a *Zeitgeist* (I. Bierschenk, 2013, p. 9). In the present study, we see the same structural relationship between consciousness in terms of historical real-time and consciousness as transformed by a contemporary reader. That which is maintained over this transformation is undeniably the synthesis of a life. It is clear that such a weighty philosophical writer as Voltaire manages to convey to a young person in our times the life he met in his time, not only from one text but across texts, i.e. sideways. *Le style est l'homme même*.

## References

- Bierschenk, B. (1991). The metaphor as instrument for naming the terminal states of ecological invariants. *Cognitive Science Research*, 37. Lund University.
- Bierschenk, B. (1993/2013). The fundamentals of perspective text analysis. *Cognitive Science Research*, 45. Lund University. (Substantially revised and extended edition.)
- Bierschenk, B. (2005). The morphogenesis of intention and structural stability of motifs. *Cognitive Science Research*, 96. Copenhagen University & Lund University.
- Bierschenk, B. (2013). Poem-embedded consciousness. The loss optimism of Voltaire. *Cognitive Science Research*, 111. Copenhagen University & Lund University.
- Bierschenk, B., & Bierschenk, I. (1976). *A system for a computer-based content analysis of interview data*. Lund: Gleerup (Studia psychologica et paedagogica, series altera 32).
- Bierschenk, B., & Bierschenk, I. (2003/2013a). The manifestation of symmetry between the emergence of consciousness and the development of competence. *Cognitive Science Research*, 86. Copenhagen University & Lund University.
- Bierschenk, B., & Bierschenk, I. (2003/2013b). Evolution of growth in the development of competence. *Cognitive Science Research*, 88. Copenhagen University & Lund University.
- Bierschenk, I. (1989). Language as carrier of consciousness. *Cognitive Science Research*, 30. Lund University.
- Bierschenk, I. (1992a). The pendular movement of text building. *Cognitive Science Research*, 42. Lund University.
- Bierschenk, I. (1992b). An excursion into the ecological co-ordinates of language space. *Cognitive Science Research*, 43. Lund University.
- Bierschenk, I. (1999/2003). The essence of text: A dialogue on Perspective Text Analysis. *Cognitive Science Research*, 70. Copenhagen University & Lund University.

- Bierschenk, I. (2005). The morphogenesis of orientation and structural stability of themes. *Cognitive Science Research*, 95. Copenhagen University & Lund University.
- Bierschenk, I. (2011). Ett ekologiskt perspektiv på språk och textanalys. *Kognitionsvetenskaplig forskning*, 98. Copenhagen University & Lund University. (In Swedish)
- Bierschenk, I. (2012). Conceived limits for manipulated reproduction. *Cognitive Science Research*, 104. Copenhagen University & Lund University.
- Bierschenk, I. (2013). The hidden greatness in *The Dwarf*. *Cognitive Science Research*, 108. Copenhagen University & Lund University.
- Bierschenk, I., & Bierschenk, B. (2004). Diagnose der Leistungsheterogenität durch die Perspektivische Textanalyse: VERTEX. I: W. Bos, Lankes, E.-M., Plaßmeier, N., & Schwippert, K. (Eds.), *Heterogenität: Eine Herausforderung an die empirische Bildungsforschung* (ss. 16-28). Münster: Waxmann.
- Bierschenk, I., & Bierschenk, B. (2011). Perspective Text Analysis: Tutorial to Vertex. *Cognitive Science Research*, 100. Copenhagen University & Lund University.
- Bierschenk, I., & Bierschenk, B. (2013). La géométrie du texte. Manuel sur le système PTA/Vertex. *Cognitive Science Research*, 110. Copenhagen University & Lund University.
- Durant, W., & Durant, A. (1965). *Kulturgeschichte der Menschheit: Das Zeitalter Voltaires (The story of civilization: The Age of Voltaire)*, Vol. 28 (3), pp. 369-431. Editions: Rencontre, Lausanne and R. Veihl, Genève.
- Gibson, J. J. (1979). *The ecological approach to visual perception*. Boston, MA: Houghton Mifflin.
- Gibson, J. J. (1982). The use of proprioception and detection of propriospecific information. In E. Reed, & R. Jones (Eds.), *Reasons for realism* (pp. 164-170). Hillsdale: Erlbaum.
- Gray, B. (1969). *Style. The problem and its solution*. The Hague: Mouton.
- Greene, B. (1999). *The elegant universe. Superstrings, hidden dimensions, and the quest for the ultimate theory*. New York: W. W. Norton & Company.
- Grimal, P. (1957). (Ed.). *Candide, L'ingénu, L'homme aux quarante écus par Voltaire*. Paris: Colin.
- Jaynes, J. (1976/1982). *The origin of consciousness in the breakdown of the bicameral mind*. Boston: Houghton Mifflin.
- Kugler, P. N., & Turvey, M. T. (1987). *Information, natural law and the self-assembly of rhythmic movement*. Hillsdale: Erlbaum.
- Lagarde, A., & Michard, L. (1961). *XVIII<sup>e</sup> siècle*. Paris : Bordas.
- Leibniz, G. (1710/1965). *Essais de Théodicée. Die philosophischen Schriften*, Band 6. (Pp. 16-436). Hildesheim: Olms.
- Pope, A. (1733/1993). An Essay on Man. In: *A Critical of Major Works* (P. 270-309). Oxford: Oxford University Press.
- SigmaPlot (2008). *Exact graphs for exact science. User's manual* (Version 12:5). Chicago: SPSS Inc.
- Voltaire, F. M. de (1759/1986). *Candide eller optimismen*. Stockholm: Natur & Kultur. (Transl: Olof Nordberg, 1976).